REMARKS

Applicants submit the present amendment in response to a Notice of Non-Compliant Amendment mailed October 5, 2005. Upon reviewing applicants' July 11, 2005, amendment that was filed responsive to the Office Action mailed February 10, 2005, the U.S. Patent and Trademark Office determined that the amendment was non-compliant for not pointing out the specific distinctions believed to render the newly added Claims 27-34 patentable over the applied references. This has been rectified below.

In the February 10, 2005, Office Action, Claims 1-26 were rejected as being anticipated or obvious in view of prior art references, including U.S. patents to Frett, Kim, Sprole, Klosterman, and Armstrong, as well as Official Notice taken by the Examiner.

As indicated above, Claim 1 has been amended to include the subject matter of Claim 2. Claim 2 has been canceled. Claim 14 has been amended to include the subject matter of Claim 18. Claim 18 has been canceled. Further, to narrow the issues for this response, Claims 5, 7 and 22-26 have been canceled without prejudice to applicants' right to seek patent protection for these claims in one or more continuation applications. Claims 3-4, 6, 8-13, 15-17, and 19-21 remain as originally presented. New Claims 27-34 are also presented for examination and allowance. Applicants have carefully considered each of the cited references and the remarks made in the Office Action, and submit that the claims presented above are in patentable condition. Reconsideration of the application and allowance of the claims at an early date is respectfully requested.

The Office Action initially objected to Claim 5 based on an informality in the text of the claim. This objection has been rendered moot by the cancellation of Claim 5.

Amended Claim 1 presents a combination of original Claims 1 and 2. In rejecting Claim 2 based on a combination of Frett and Kim, the Office Action alleges that "Kim discloses

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providing a feedback signal to a companion box device for processing, thereby permitting the companion box device to detect the channel state of a set top box, for the purpose of enabling the VCR to determine whether or not the cable box is responding to the appropriate commands." Office Action, page 3 (citations omitted).

Applicants respectfully disagree. Kim discloses a VCR capable of monitoring one or more aspects of a broadcast television signal received from a set top cable box. The television signal is communicated to the VCR via an RF carrier frequency and contains the broadcast content being communicated to the user. According to Kim, monitoring the RF carrier of the TV signal enables the VCR to determine whether the set top box is "on" or "off" by the presence of a signal. Moreover, if "perturbations" (disturbances) in the TV signal are observed, the VCR is configured to assume that a change of channels has occurred. See Col. 5, lines 28-41, of Kim.

Within the context of the present invention, the television signal monitored by Kim does not constitute a "feedback signal" as claimed. The apparatus recited in Claim 1 as amended above generates a feedback signal based upon digital values obtained from the comparison stage to indicate the channel state of the set top box. This feedback signal is transmitted to a companion box for processing. The TV signal monitored by Kim cannot be considered an equivalent of the claimed feedback signal because the TV signal is not generated by a "comparison stage" from output signals of a "sensing stage" as claimed in Claim 1. While the apparatus in Frett may produce an output signal indicative of the channel state of a set top box, there is no disclosure or suggestion in either Kim or Frett to use the output signal of Frett to generate a feedback signal that is transmitted to a companion box for processing. Applicants respectfully submit that Claim 1 presents patentable subject matter and should be allowed. Claims 3 and 4 are also patentable for their dependence on allowable Claim 1.

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With respect to the method in Claim 6, applicants do not find that the cited references disclose at least "transmitting to a companion box device a bit stream having the generated digital values to permit the companion box device to determine a channel state of the set top box." Claim 6 should be allowed.

With respect to Claim 8, applicants note that the rejection required piecing together the disclosures of four patents in a series of steps to modify and modify again a system to eventually achieve the claimed invention. Applicants respectfully submit that the four disclosures would not be combined by one of ordinary skill in the art as described in the Office Action to achieve the system as claimed in Claim 8 without employing hindsight in view of the present application. For example, Claim 8 recites a system that includes "a companion box device communicatively coupled to the light-sensing elements," wherein the companion box device includes "a character recognition engine," "a channel state analysis engine," and "a response engine" that operates on the signals received from the light sensing elements. The response engine sends a change channel command to the set top box if needed. As previously noted herein, the combined disclosures of Kim and Frett do not teach a companion box communicatively coupled with light sensing elements as claimed. The VCR in Kim monitors a TV signal from a cable box. The additional references to Klosterman and Sprole do not overcome this deficiency of Kim and Frett. As with Claim 1, Claim 8 is patentable over the prior art and should be allowed.

Claims 9-13 are also in patentable condition. For example, in Sprole, twice as many light-sensing elements are employed as the number of light emitting devices in the display. See primary phototransistors 112 and secondary phototransistors 113 discussed by Sprole and shown in Figure 1. In contrast, Claim 9 recites a set top box channel state system in which the plurality of light-sensing elements is equal in number to the plurality of light emitting devices in the display. This is not shown or suggested in the prior art. Furthermore, Claims 10-13, which

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depend on allowable Claim 8, are also in patentable condition for the additional subject matter recited therein and should be allowed.

Claim 14 has been amended to include the subject matter of now-canceled Claim 18. Amended Claim 14 recites "sampling output from a plurality of light-sensing elements coupled to a display of a set top box, wherein the plurality of light-sensing elements is equal in number to a plurality of light-emitting devices in the display." As discussed above with respect to Claim 9, this aspect of the invention is not taught by Sprole, nor is it taught or suggested by the other prior references cited in the Office Action. Accordingly, Claim 14 is patentable and should be allowed, along with Claims 15-17 and 19-21 for their dependence on allowable Claim 14.

Lastly, new Claims 27-34 have been added. Applicants have carefully considered the prior art and respectfully submit that the new claims are patentable over the prior art.

Claim 27 claims a companion box configured to communicate with a set top box via an infrared (IR) blaster to affect a channel state of the set top box. The companion box comprises, *inter alia*, "an IR blaster capable to send a command via an IR beam to the set top box" and "a channel state recognition circuit in communication with the IR blaster, the channel state recognition circuit including a processor and a plurality of light-sensing elements positioned relative to light emitting devices on a display of the set top box, the light emitting devices indicating the channel state of the set top box." In addition, the processor is "coupled to the plurality of light sensing elements to receive one or more signals therefrom and determine the channel state of the set top box . . . [and] is configured to send a command via the IR blaster to change the channel state of the set top box to a particular channel state." The processor is further configured "to receive one or more signals from the light sensing elements and determine the channel state of the set top box, the processor ensuring, based on the sensed set top box display, that the set top box acted upon the command and changed to the particular channel state."

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Applicants submit that the cited and applied art, in particular Kim and Frett, do not teach or suggest these elements of new Claim 27.

Claim 28 is also directed to a companion box configured for communication with a set top box via an infrared (IR) blaster. In Claim 28, the set top box has an output with channels over which programming content is communicated. In addition to an IR blaster capable to send a command via an IR beam to the set top box, the companion box comprises "a feedback interface configured to produce a feedback signal indicative of the channel state of the set top box." The companion box further comprises "a plurality of light sensing elements" and "a processor coupled to the feedback interface and the IR blaster." After the IR blaster sends a command to the set top box, the processor is configured "to receive the feedback signal from the feedback interface and confirm the command was executed by the set top box."

In particular, Claim 28 states that "the feedback signal is not derived from monitoring an output channel of the set top box over which programming content is communicated but from externally monitoring a light emitting display of the set top box." Applicants submit that Claim 28 is defined over the cited and applied art. The VCR in Kim is configured to monitor a TV signal from a cable box.

Claim 29 claims a method of ensuring execution of a command received by a set top box from an infrared (IR) blaster. The method comprises, *inter alia*, "externally monitoring a display of the set top box to determine if the command has been executed" including the use of "light sensors producing one or more feedback signals indicative of the light emitting state of the light emitting devices" of the display. The method further "determin[es] from the one or more feedback signals whether the command from the IR blaster was executed by the set top box." Applicants have considered the cited and applied references and respectfully do not find disclosure of this method of ensuring execution of a command, as recited in Claim 29.

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Claim 30 is directed to a method of maintaining a channel state of a set top box. The claimed method includes "detecting the channel state of a set top box based on a display of the channel state on the set top box," "generating signal information indicative of the detected channel state," and "transmitting the generated signal information to a companion box for the companion box to determine an initial channel state of the set top box." These actions are thereafter repeated "to determine a current channel state of the set top box," the method further comprising "comparing the current channel state to the initial channel state" and "sending a command to the set top box to change to the initial channel state if the current channel state is determined to be different than the initial channel state." Applicants have considered the cited and applied references and do not find disclosure that teaches or suggests this combination of elements.

Claims 31-34 are believed patentable for their dependence on Claim 30, and for the additional subject matter recited therein.

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CONCLUSION

In view of the foregoing amendments and remarks, applicants submit that the present application is in condition for allowance. Early action to that end is respectfully requested. Should any issues remain needing resolution prior to allowance, the Examiner is invited to contact applicants' attorney at the telephone number indicated below.

Respectfully submitted,

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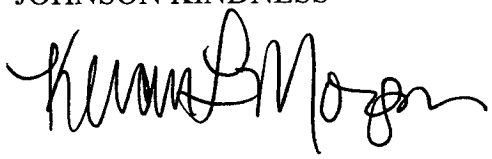

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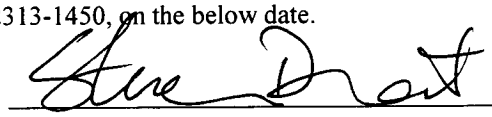
Date: 10.25.2005 

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